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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------------|------------------|
| 09/756,269 | 01/09/2001 | Niichi Itoh | 49657-935 | 6281 |
| 7590 11/15/2004 McDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096 | | | EXAMINER NGO, CHUONG D | |
| | | | ART UNIT 2124 | PAPER NUMBER |
| DATE MAILED: 11/15/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/756,269

Applicant(s)

ITOHI, NIICHI

Examiner

Chuong D Ngo

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 6-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claim 1 stands rejected under 35 U.S.C. 102(a) as being clearly anticipated by applicant's admission of prior art disclosed in figure 18 of the present application.

The admitted prior art in figure 18 discloses a multiplication apparatus having a Booth encoder (1) Booth selection circuitry (3), intermediate product generating circuitry (4-6) being divided into first array (4a-4d,5a,5b,6a) and second array (4e-4g,5c,5d,6b), and a final addition circuit (7) as claimed.

2. Claims 2-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art disclosed in figure 18 of the present application as applied to claim 1 above, and further in view of in view of Owaki (JP 63055627 A).

As per claims 2-4, the admitted prior art in figure 18 also discloses the divided arrays arranged in a direction orthogonal to the Booth select control signals, and performing the addition in a direction toward the final addition circuit, but does not show the final addition circuit in between the divided arrays. However, Owaki discloses in figure 1, the arrangement of the final addition circuit in between the divided array for minimizing the wiring delay (see the Constitution, lines 11-12). Thus, it would have been obvious to a person of ordinary skill in the art to arrange of the final addition circuit of the admitted prior art in between the divided array as taught by Owaki in order to minimize the wiring delay, and thus to increase the speed of processing.

As per claim 5, the admitted prior art in figure 18 also does not show the multiplicand generating circuit in between the divided arrays. However, since the multiplicand generating circuit provides a common multiplicand to both the divided arrays, it would have been obvious to a person of ordinary skill in the art to apply the teaching of Owaki as set forth above to arrange the multiplicand generating circuit in between the divided arrays so that the wiring delay can be minimized, and thus further improve the speed of processing.

3. Applicant's arguments filed on 07/13/2004 have been fully considered but they are not persuasive.

Regarding claim 1, according to the description of figure 18 on page 8, line 10 through page 10-30, the intermediate product generating circuitry clearly including addition circuits (4a-4d,5a,5b,6a) as a first dividing array, and addition circuits (4e-4g,5c,5d,6b) as a second dividing array. The arrays are clearly in a tree-like form, and concurrently (in parallel, see page 9, lines 18-19) and independently generate final intermediate values (at 6a for the first array, and at 6b for the second array, see page 8, line 10 through page 9, line 6) as claimed.

Regarding claims 2-5, applicant's argument is not persuasive because the claims are rejected based on AAPA in view of Owaki which suggests the final addition circuit in between the divided multiplying arrays for minimizing the wiring delay.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Applicants should cancel claims 6-16 drawn to an invention nonelected in response to this final Office action.

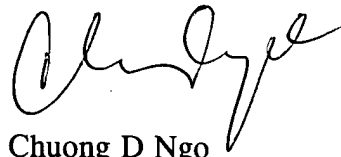
6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D Ngo whose telephone number is (571) 272-3731. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2124

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong D Ngo
Primary Examiner
Art Unit 2124

10/03/2004